FIG 1A

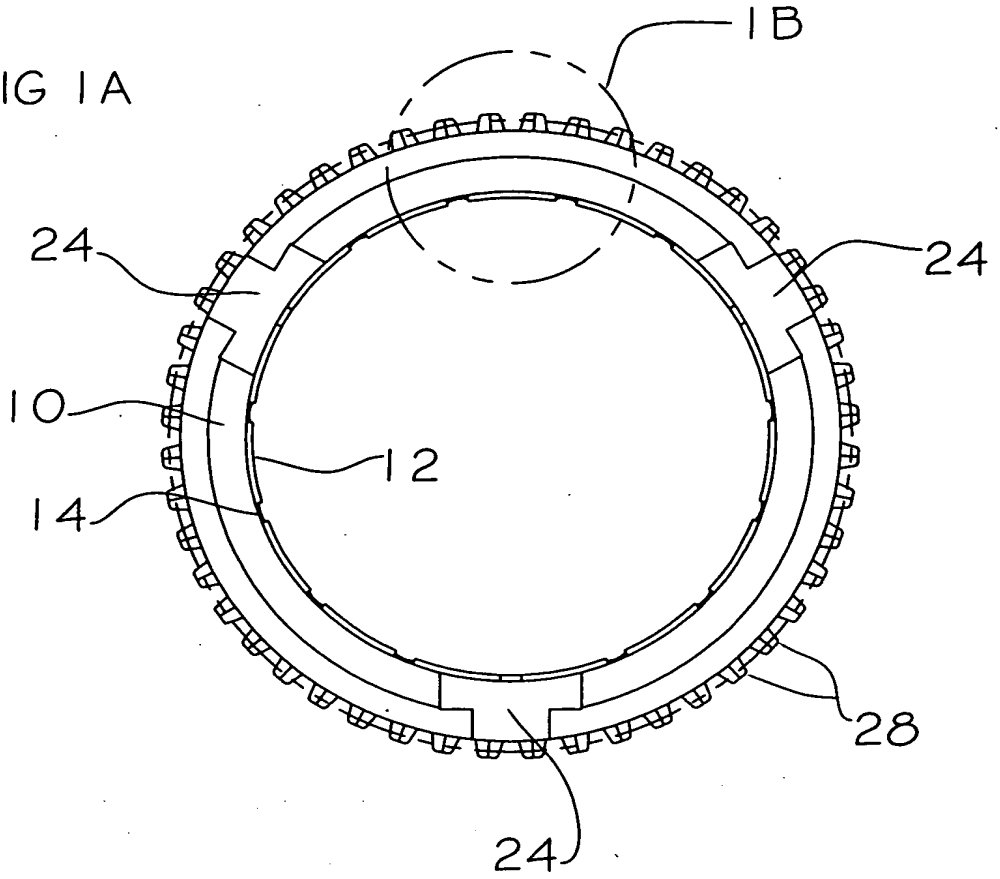


FIG 1B

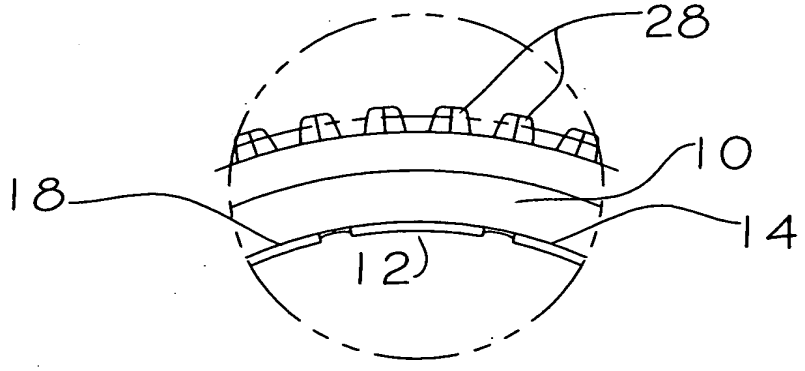


FIG 2

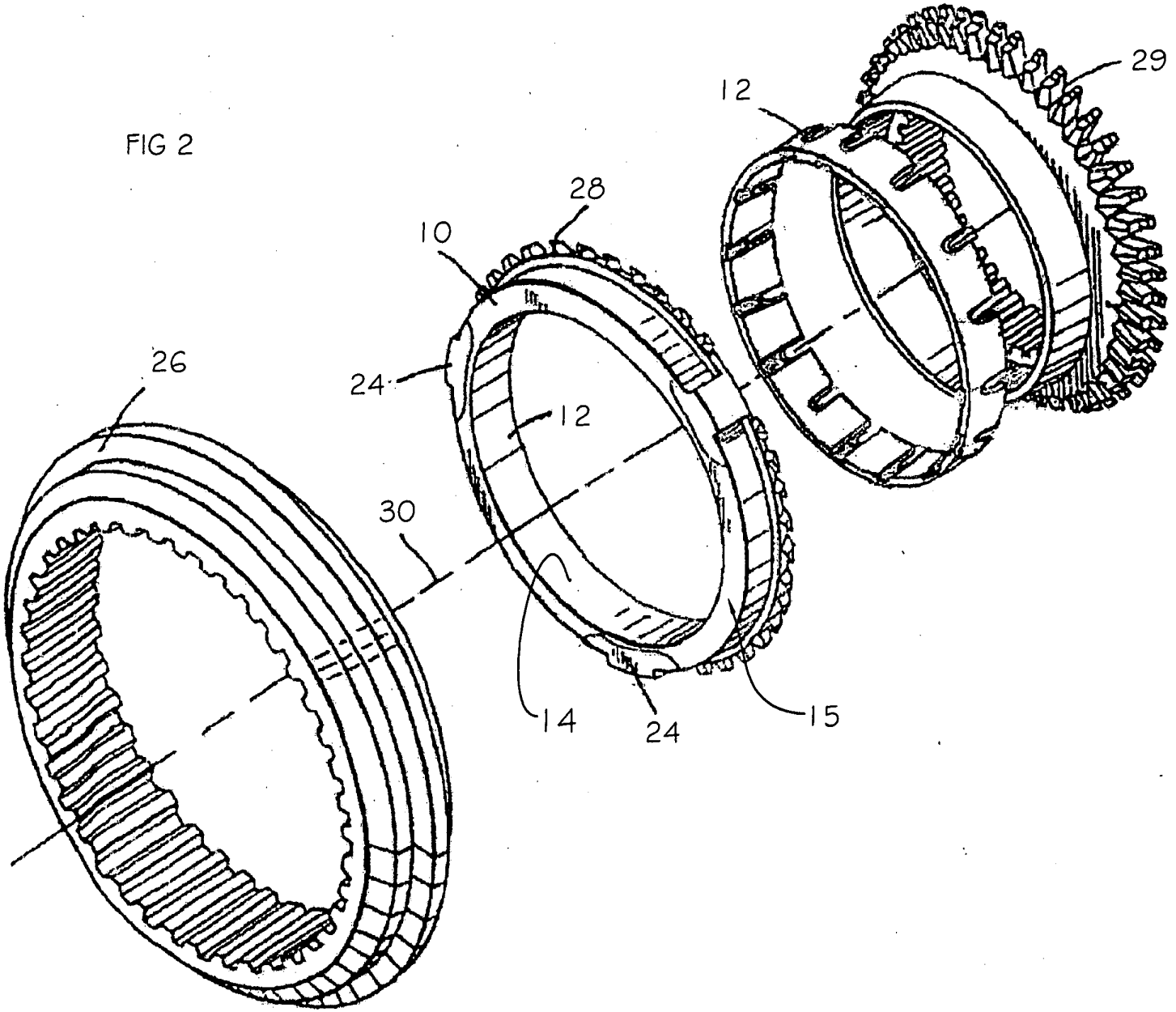


FIG 3A

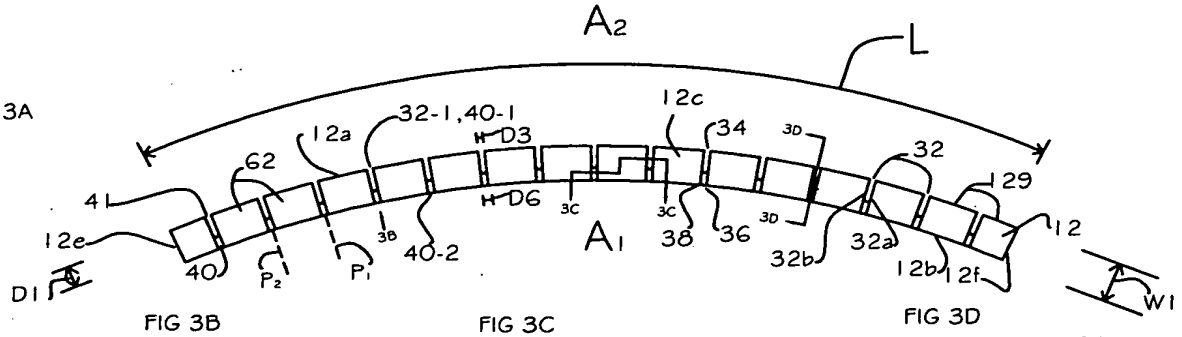


FIG 3B

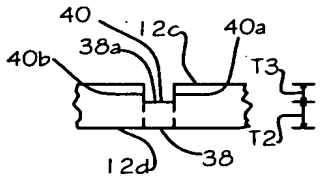


FIG 3C

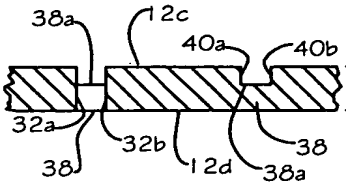


FIG 3D

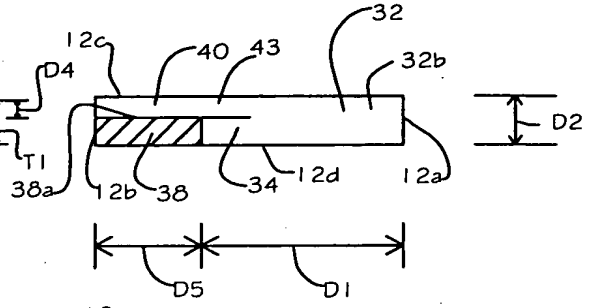


FIG 4A

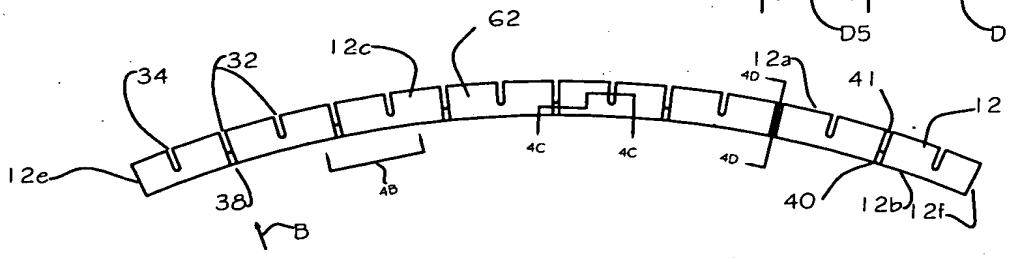


FIG 4B

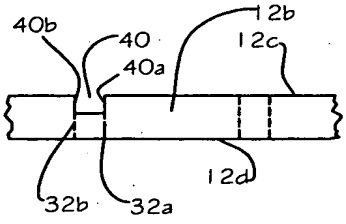


FIG 4C

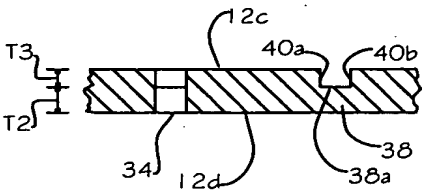
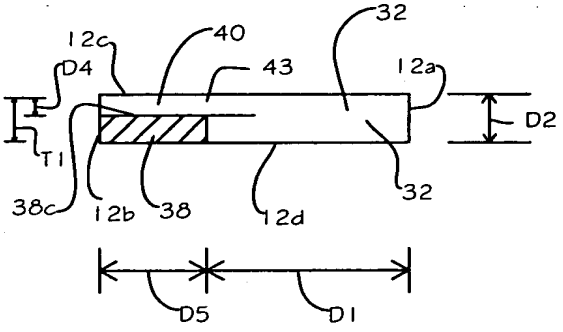


FIG 4D



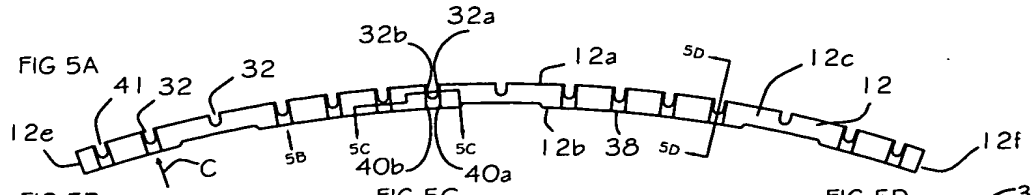


FIG 5A
32b
32a
12a
5D
12c
12
41
32
32
12e
12f
C
5B
5C
40b
5C
40a
12b
38
5D

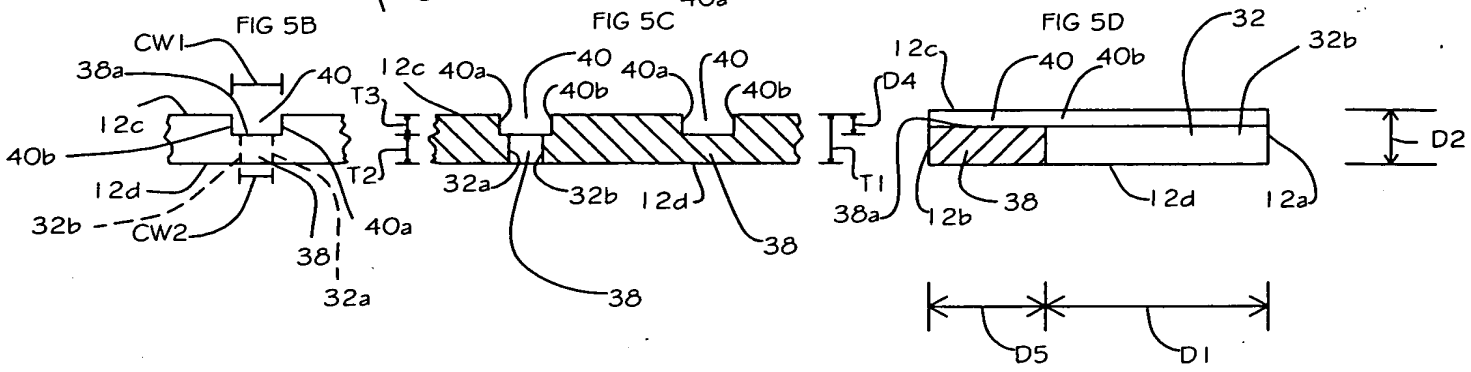


FIG 5B
FIG 5C
FIG 5D
CW1
38a
40
12c
40a
40
40a
40
12c
40
40b
40b
40b
T3
D4
12c
32
32b
40b
12c
T2
T1
12d
32a
32b
12d
12b
38
12d
12a
D2
38a
32b
CW2
40a
38
38
32a
38
D5
D1

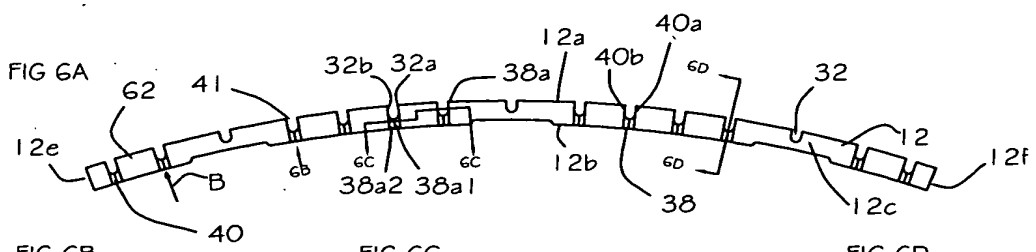


FIG 6A
12a
40a
32b
32a
40b
6D
32
62
41
38a
12
12e
12f
6B
6C
6C
6D
B
38a2
38a1
12b
38
12c
40

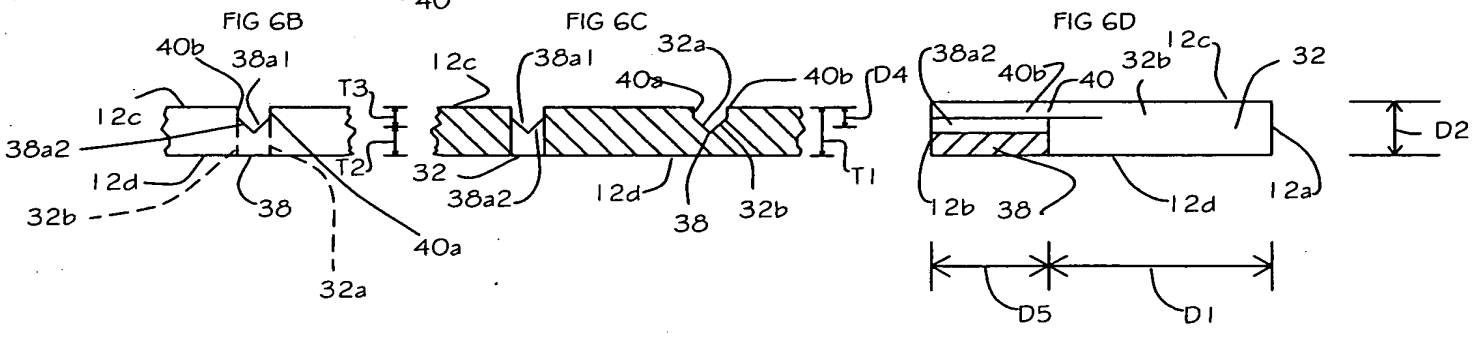


FIG 6B
FIG 6C
FIG 6D
40b
38a1
12c
38a1
32a
38a2
40b
12c
32
T3
40a
40b
D4
38a2
40b
40
32b
12c
32
12c
T2
T1
12d
32
38a2
12d
38
32b
12b
38
12d
12a
D2
38
32b
40a
32a
D5
D1

FIG 7A

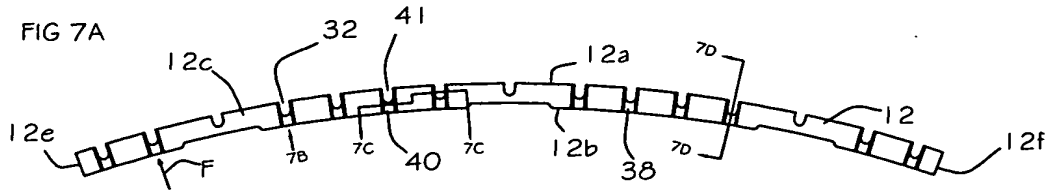


FIG 7B

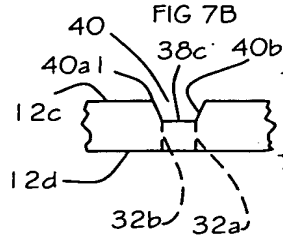


FIG 7C

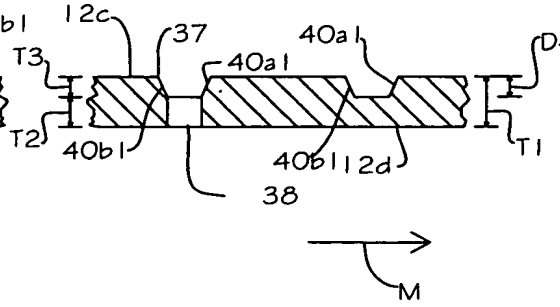


FIG 7D

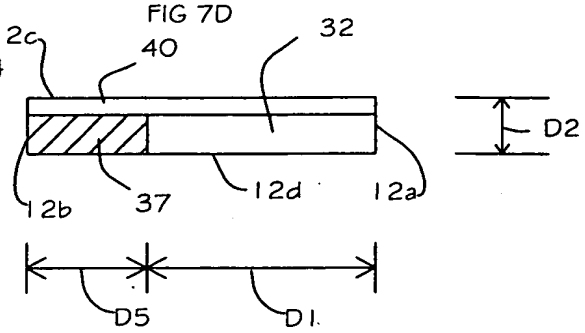


FIG 8A

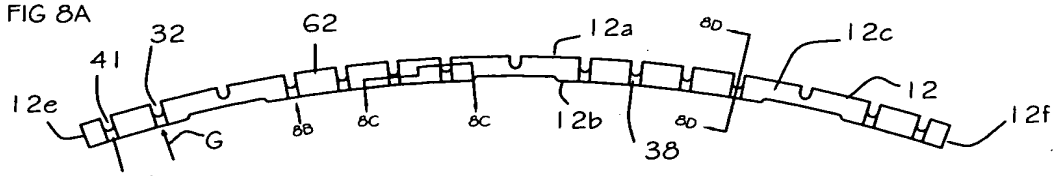


FIG 8B

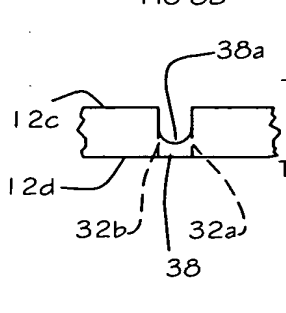


FIG 8C

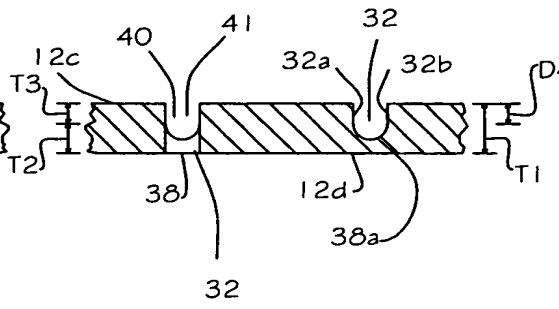


FIG 8D

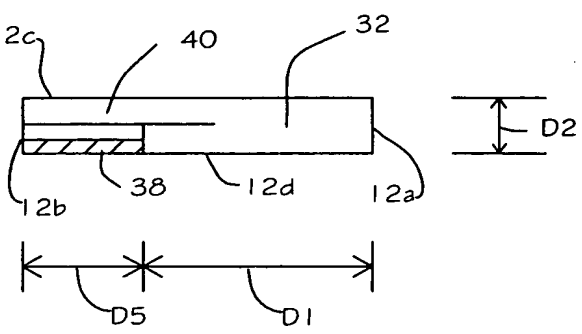


FIG 9A

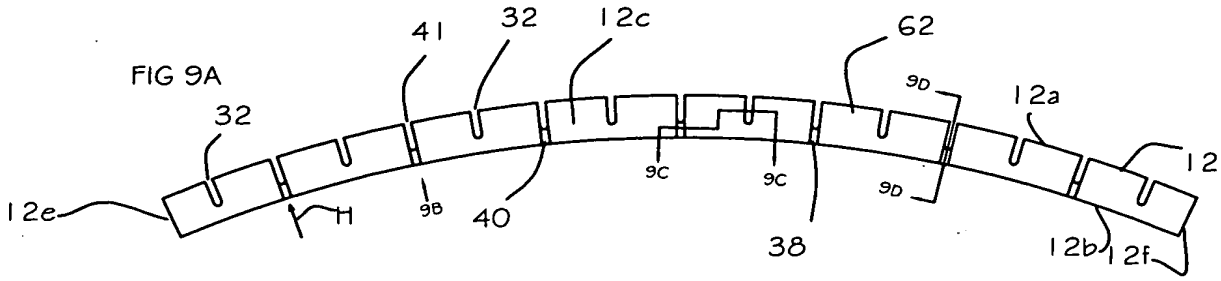


FIG 9B

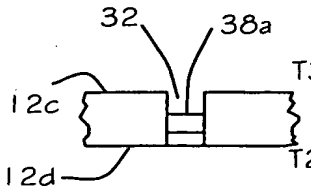


FIG 9C

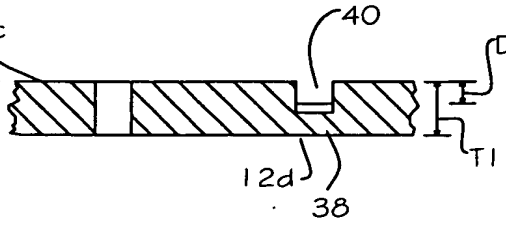


FIG 9D

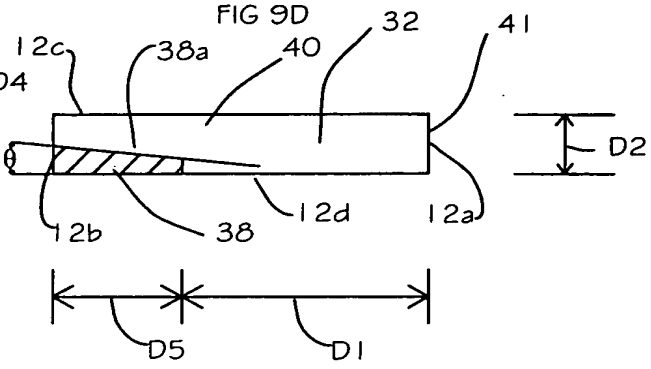


FIG 10A

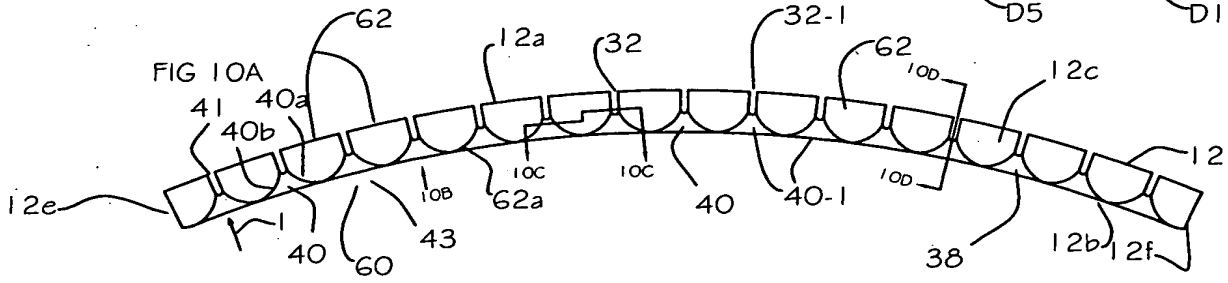


FIG 10B

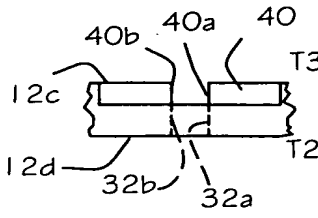


FIG 10C

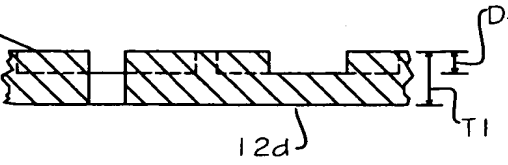
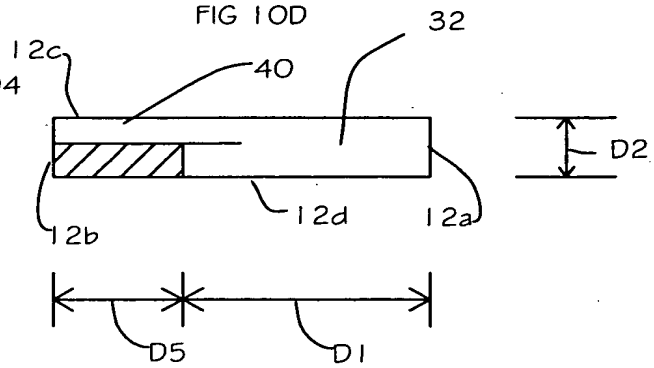


FIG 10D



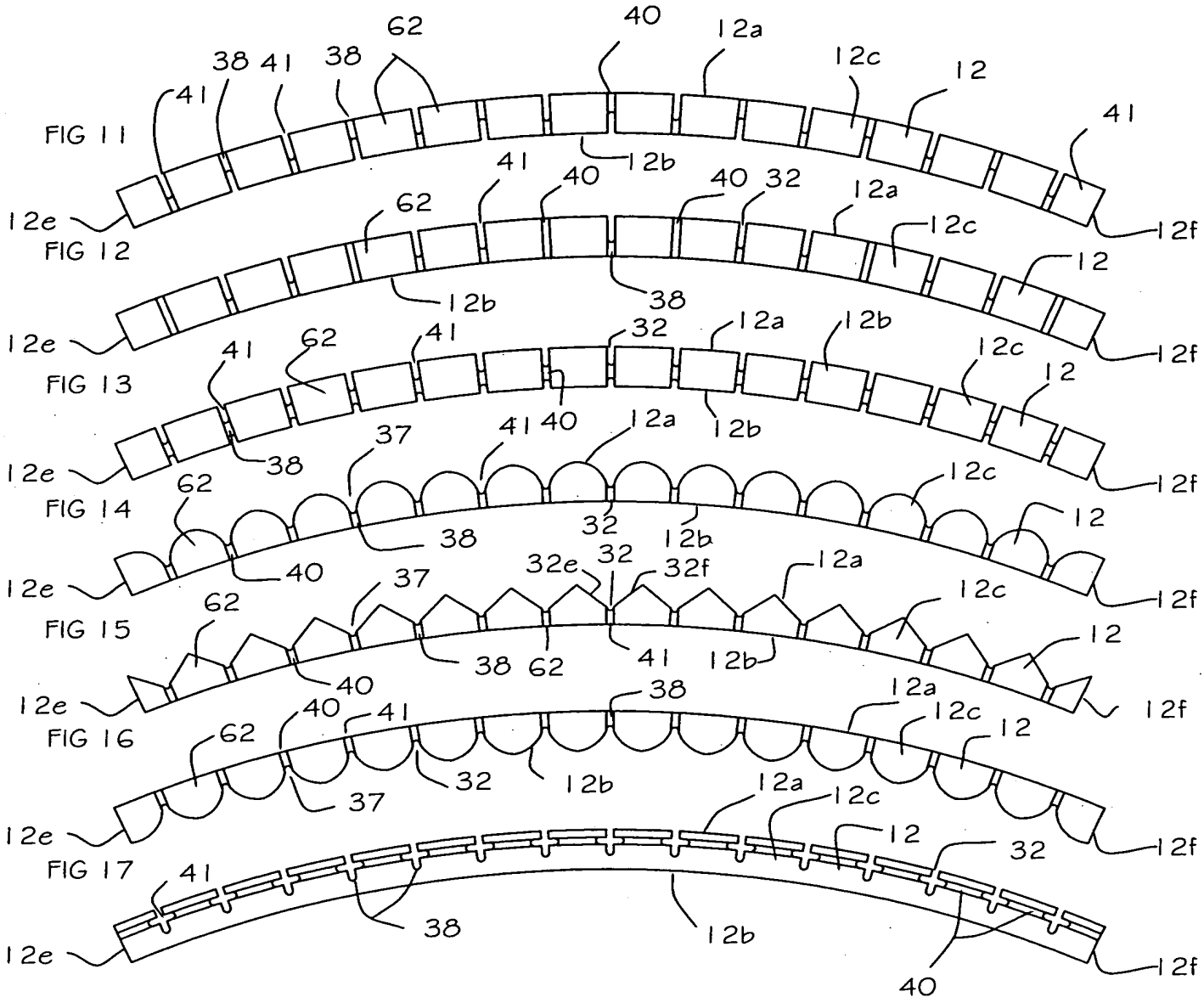


FIG 11
62
40
12a
38 41 38
12c
12
41
41
12b
12e
12f
FIG 12
41
40
40 32
62
12a
12c
12
12b
38
12e
12f
FIG 13
41
62
41
32
12a
12b
12c
12
12e
12f
FIG 14
37
41 40
12a
12b
62
12c
38
12
32
12b
12e
40
12f
FIG 15
32e
32
32f
12a
37
12c
62
62
12
38
62
41
12b
12e
40
12f
FIG 16
38
12a
40
41
12c
12
62
32
12b
37
12e
12f
FIG 17
12a
12c
12
32
41
38
12b
12e
12f
40

FIG 18

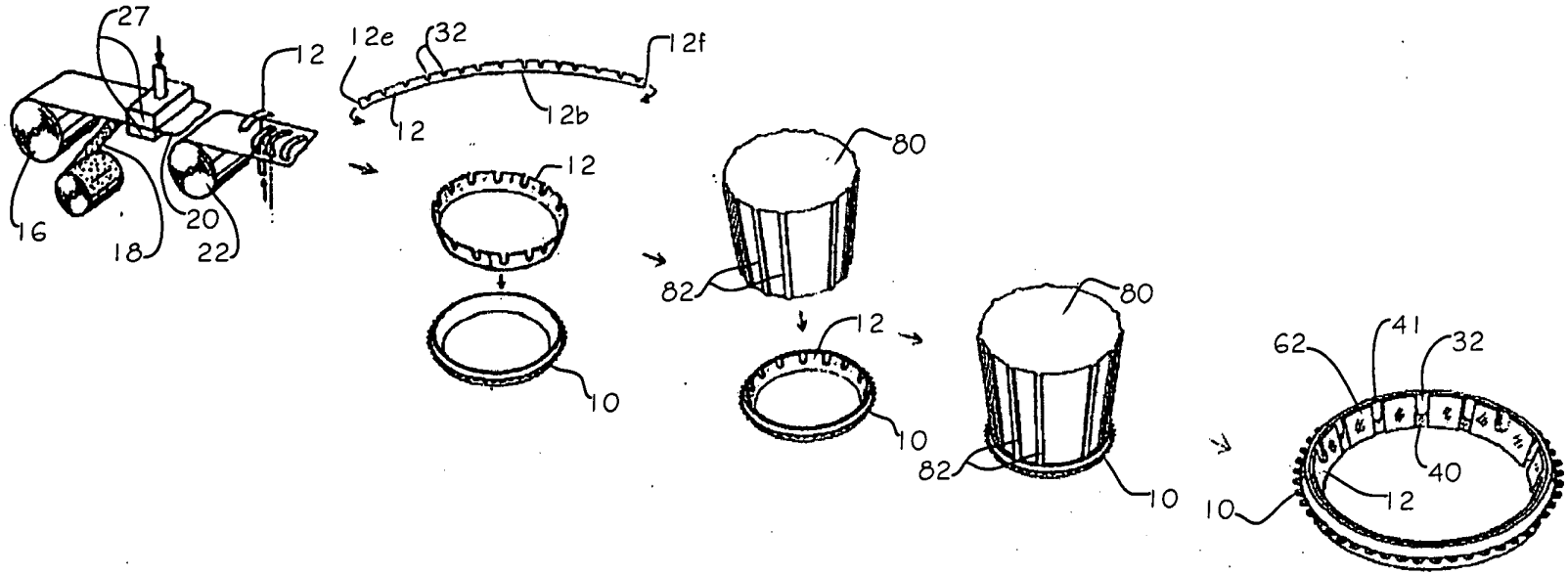

27
12
16
18
20
22
12e
32
12f
12
12b
12
10
80
82
12
10
80
82
10
62
41
32
40
12
10

FIG 19

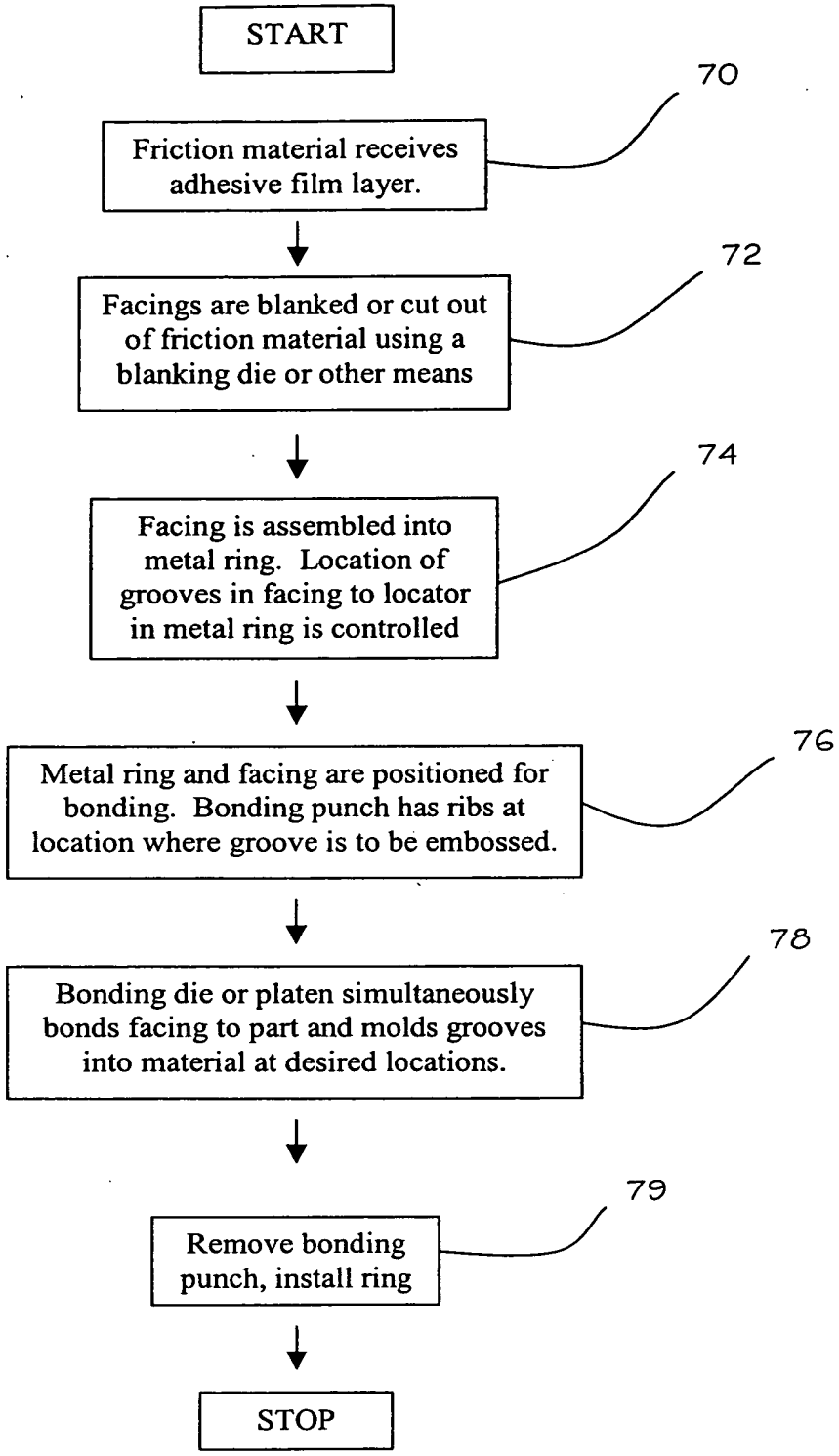

START
70
Friction material receives adhesive film layer.
72
Facings are blanked or cut out of friction material using a blanking die or other means
74
Facing is assembled into metal ring. Location of grooves in facing to locator in metal ring is controlled
76
Metal ring and facing are positioned for bonding. Bonding punch has ribs at location where groove is to be embossed.
78
Bonding die or platen simultaneously bonds facing to part and molds grooves into material at desired locations.
79
Remove bonding punch, install ring
STOP

FIG 20A

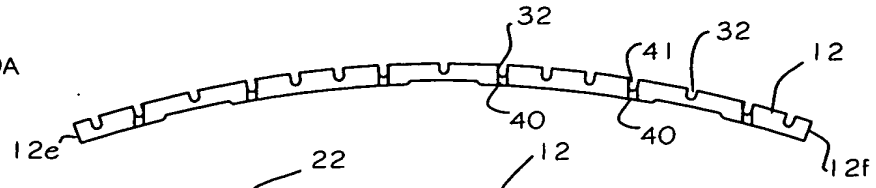


FIG 20B

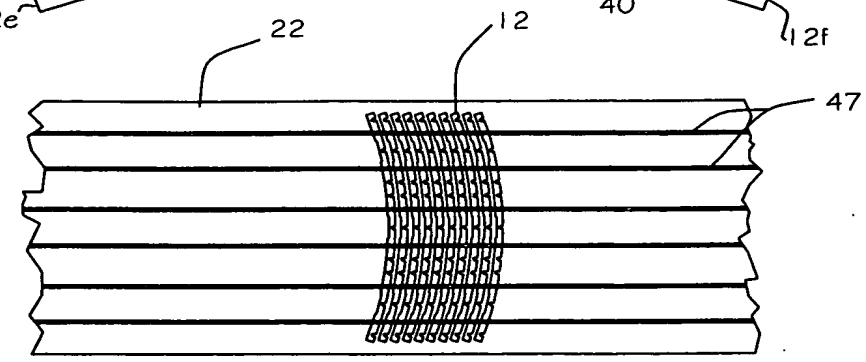


FIG 20C

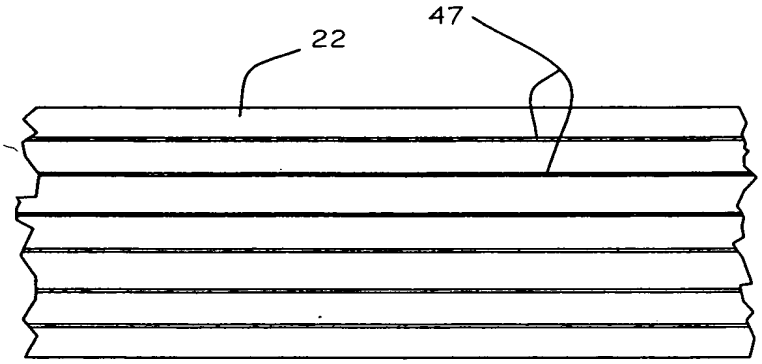


FIG 21A

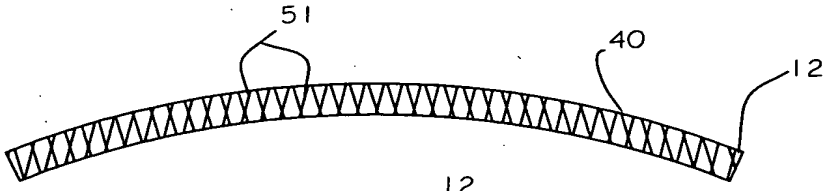


FIG 21B

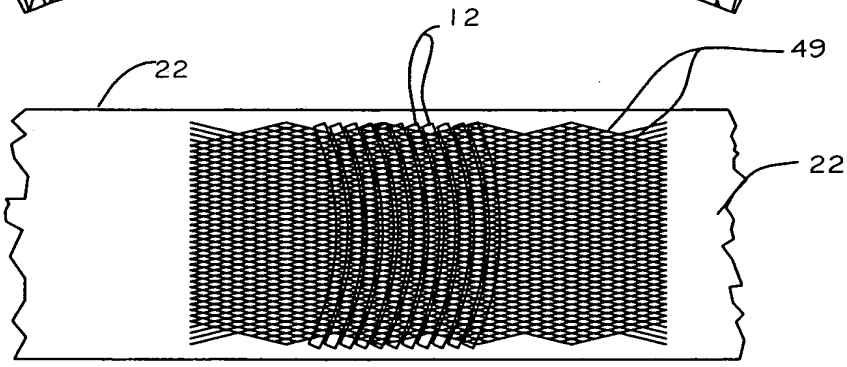


FIG 21C